COTEK

BP- □□□□ Series

Switch Mode 3 Stage Battery Charger

User's Manual

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1. Important Safety Instructions

WARNING !
Before you install and use Your BP-□□□□ Battery Charger, be to read and save these safety instructions.

1-1. General Safety Precautions

1-1-1. Do not expose the BP-□□□□ Battery Charger to rain, snow, spray, bilge or dust.
To reduce risk of hazard, do not cover or obstruct the ventilation openings. Do not install the BP-□□□□ Battery Charger in a zero-clearance compartment. Overheating may result.

1-1-2. To avoid a risk of fire and electronic shock. Make sure that existing wiring is in good electrical condition; and that wire size is not undersized.
Do not operate the BP-□□□□ Battery Charger with damaged or substandard wiring.

1-1-3 The Battery terminal not connected to the chassis has to be connected first. The other connections is to be made to this chassis, remote from the battery and fuel line. The battery charger is then to be connected to the supply mains.

1-1-4 After charging, disconnect the battery charger from supply mains. Then remove the chassis connection and battery connection, in this order.

1-1-5 Do not charge non-rechargeable batteries.

1-1-6 During charging the battery must be placed in a well ventilated area.

1-1-7 The battery charger must only be plugged-in to an earthed socked-outlet.

1-1-8 If the power supply cord is damaged, it must be replaced by the Manufacturer or its service agent or a similar qualified person in Order to avoid a hazard.

1-2. Precautions When Working with Batteries

1-2-1. If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters eye, immediately flood eye with running cold water for at least 20 minutes and get medical attention immediately.

1-2-2. Never smoke or allow a spark or flame in vicinity of battery or Engine.

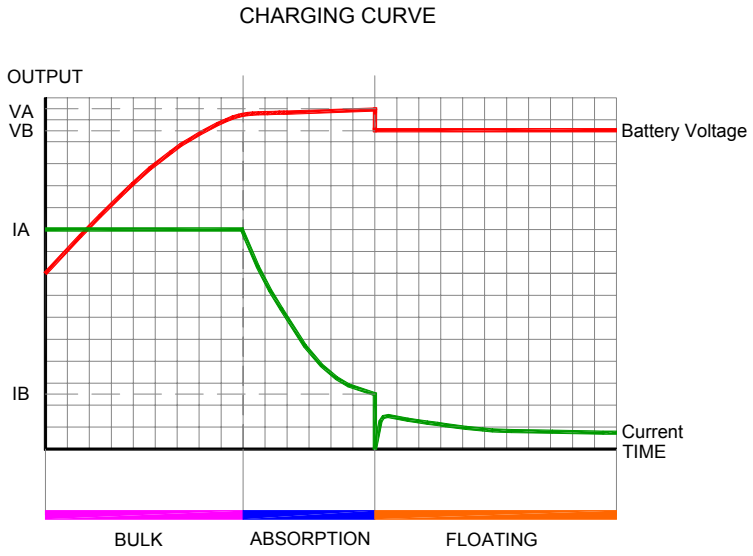
1-2-3. Do not drop a metal tool on the battery. The resulting spark or short-circuit on the battery or other electrical part may cause an explosion.

1-2-4. Remove personal metal items such as rings, bracelets, necklaces, and watches when working with a lead-acid battery.
A lead-acid battery produces a short-circuit current high enough to weld a ring or the like to metal, causing a severe burn.

2. Features

- **High-performance 3-stage charging effect**
- Advanced 8 bit microprocessor control circuit
- Reverse battery protected by fuse
- **Ignition protection**
- Output short circuit protection
- Over power protection
- Switch mode technology
- Easy to read LED's for system status
- Compact size, Light weight

2.1 Battery Charging Curve



IU Charging Characteristic

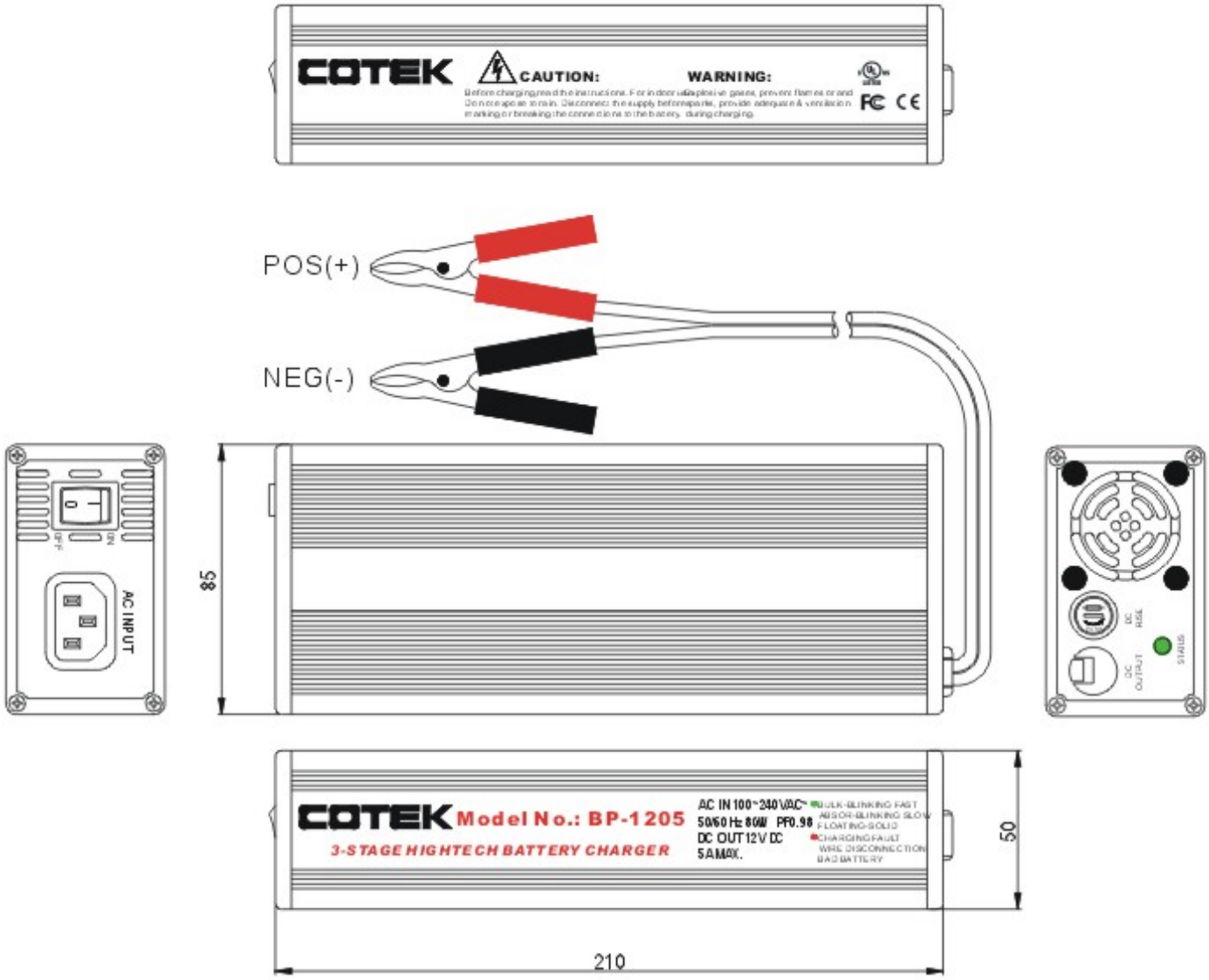
Model	12V / 5A	12V / 10A	24V / 5A	24V / 3A
VA	14.4V	14.4V	28.8V	28.8V
VB	13.6V	13.6V	27.2V	27.2V
IA	5A	10A	5A	2.5A
IB	0.75A	1.5A	0.75A	0.38A

2-2. Electrical Performance

Specification	Technical Data	
Model No	**BP-1205**	**BP-1210**
Power Watt.	80W	160W
Input Voltage	100-240VAC / 50~60Hz	
Power Factor	PF: 0.98	
Output Voltage	12V DC	
Output Current	5A Max.	10A Max.
Safety	UL1236 , CE , TUV , Pending	
EMC	FCC Class A , EN55022:1994/A1:1995/A5:1997 EN61000-3-2:2000, EN61000-3-3:1995 and EN55024:1998	
Dimensions	210 (L) x 85 (W) x 50 (H) mm / 8.26 (L) x 3.34 (W) x 1.96 (H) Inch	
Weight	0.9 kgs. / 1.8 Lbs.	

Specification	Technical Data	
Model No	**BP-2403**	**BP-2405**
Power Watt.	80W	160W
Input Voltage	100-240VAC / 50~60Hz	
Power Factor	PF: 0.98	
Output Voltage	24V DC	
Output Current	2.5A Max.	5A Max.
Safety	UL1236 , CE , TUV , Pending	
EMC	FCC Class A , EN55022:1994/A1:1995/A5:1997 EN61000-3-2:2000, EN61000-3-3:1995 and EN55024:1998	
Dimensions	210 (L) x 85 (W) x 50 (H) mm / 8.26 (L) x 3.34 (W) x 1.96 (H) Inch	
Weight	0.9 kgs. / 1.8 Lbs.	

2-3. Mechanical Drawings

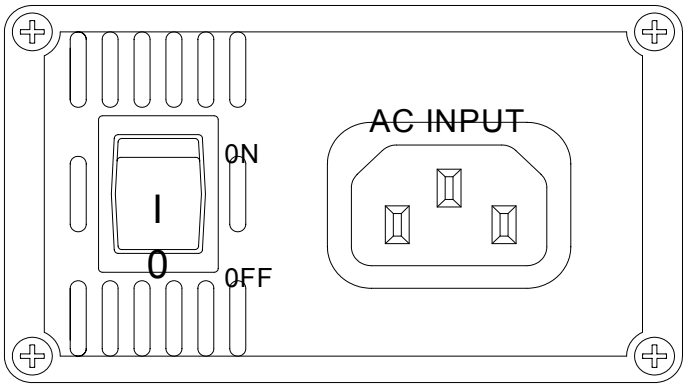


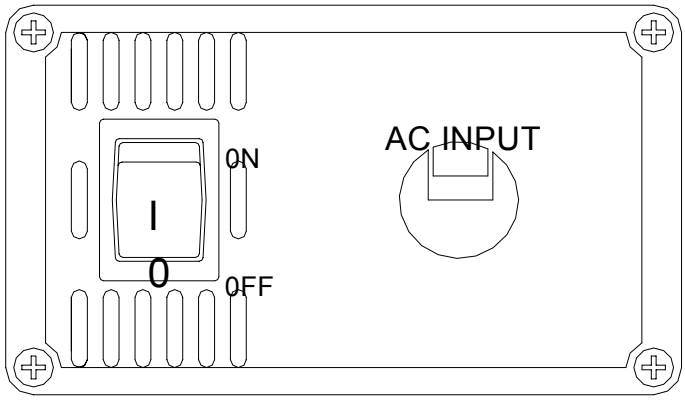
3. Introduction

This BP-□□□□ series is a high frequency switching mode 3-stage battery Charger and equipped with a micro controller and PFC circuit to perform Intelligent battery management and to provide highly reliable operation. Before using the BP-□□□□, read all instructions and cautionary marking on this manual.

3-1. Front Panel Operations:

3-1-1. Front view:





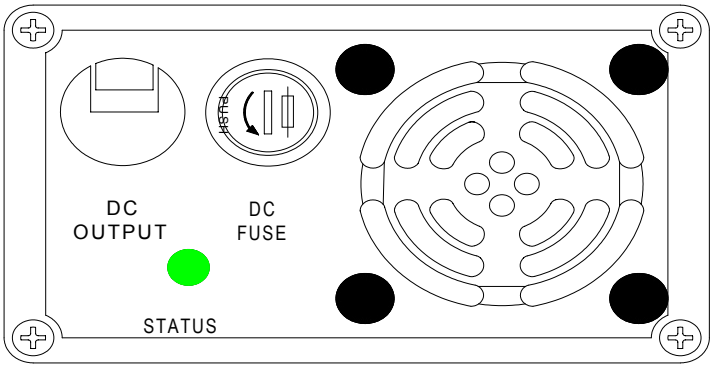
3-1-2. ON / OFF switch:

Power ON/OFF switch, leave in the OFF position during installation.

3-1-3. LED Status

Charging Status	LED Indication
Fast Charge	Blinking Green Fast
Slow Charge	Blinking Green Slow
Floating Charge	Solid Green
Charging Fault	Blinking Red
Bad Battery or Wire Disconnection	Blinking Red

3-2. Rear Panel Operations:



3-2-1. Ventilation window:

Do not obstruct, allow at least 1 inch for air flow.

3-2-2. DC Output terminals:

Connect to 12V / 24V battery.

【＋】is positive,【－】is negative.　Reverse polarity connection will blow internal fuse and may damage BP-□□□□ permanently.

3-3. Troubleshooting :

Problems and Symptoms	Possible Cause	Solutions
“Red” LED Blinking	Battery is disconnected	Check the Battery connection.
	Battery fault	Chang to another new battery
LED light off	No AC power delivering	Check input power connection.
	Polarity Reverse	Place proper polarity. Check DC fuse if broken, and then replace the same rating fuse.
	Thermal Shutdown	Make sure ventilation is not obstructed. Improve ventilation. Reduce ambient temperature.

3-4. Selection of battery types:

Sealed lead acid and open lead acid battery shall be used.

Model No.	Battery Capacity (Min.)	Battery Capacity (Max.)
BP-1205	12V / 15 Ah	12V / 50 Ah
BP-1210	12V / 30 Ah	12V / 100 Ah
BP-2403	24V / 7.5 Ah	24V / 25 Ah
BP-2405	24V / 15 Ah	24V / 50 Ah